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Many studies have by now demonstrated the accuracy of GNSS Radio Occultation (RO) data, and their usefulness as a stable climate reference. Homogeneity of the data records are obtained by reprocessing of the data using uniform processing software throughout the length of the climate record. Version 1 of the ROM SAF Climate Data Record (CDR), based on Metop, CHAMP, GRACE, and COSMIC data, covers a continuous 15-year period from 2002 to 2016. The CDR is extended in time by an Interim CDR (ICDR) which is regularly updated nearly up to present time, and the combined time series is now long enough (19 years) to begin detection of climate trends. We here present results from recent climate applications of RO data: bending angle and temperature trends in the upper troposphere and stratosphere, including the very first RO contribution to an IPCC Assessment Report, as well as monitoring of Arctic conditions leading to increased ozone depletion. Finally, we will outline the ROM SAF plans for extending the RO climate data records.

Presentation file

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